IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Michael Wu et al.	Attorney Docket No.: CISCP349/314964
Application No.: 10/664,591	Examiner: Chuong T. Ho
Filed: September 19, 2003	Group: 2619
Title: METHODS AND APPARATUS FOR SWITCHING BETWEEN METRO ETHERNET NETWORKS AND EXTERNAL NETWORKS	Confirmation No. 3645

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PRE-APPEAL BRIEF REQUEST FOR REVIEW

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Please consider the following remarks and arguments:

Claims 1-24 are pending. In the previous Office Action, the arguments with respect to claims 1-24 were considered. The Examiner is now presenting new grounds for rejecting claims 1-24. Claims 1-9, 11-19, 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chase (7,092,389) in view of Havala (US 2005/0053079). In the previous Office Action response, the Applicants argued that the cited art either alone or in combination do not teach or suggest "determining that the inner tag value identifies a service provisioned for the customer site" and/or "replacing the outer tag and the inner tag with one or more identifiers for transmission onto the external network" as recited in independent claims.

Chase describes "As seen in FIG. 5, each of premises 16000.sub.1, 16000.sub.2 and 16000.sub.3 belonging to customer 1, customer 2 and customer 3, respectively, may send frames for receipt at MSP 12000.sub.2 in the MAN 10000. The MSP 12000.sub.2 tags each frame with

the corresponding customer descriptor prior to statistically multiplexing the data for transmission on the fiber ring infrastructure 14 to the CO MSP 12000.sub.4 for receipt at the ATM switch 30. The ATM switch 30 then maps each frame to the appropriate PVC in accordance with the customer descriptor 22' in the frame in a manner similar to the mapping described with respect to FIG. 3. Thus, the ATM switch 30 could map the frame to one of Frame Relay recipients' 32.sub.1, 32.sub.2, or 32.sub.3, ATM recipients 32.sub.4 or 32.sub.5 or IMA (Inverse Multiplexing over ATM) recipient 32.sub.6." (Figure 5 Description)

Havala describes "[0042] If the label is found, the subrouter 123i inserts, swaps, or replaces the VPN label 156 and the forwarding label 158 in place of the tag 152 of the VLAN packet 150 to generate the MPLS packet 154 and sends the MPLS packet 154 to the MPLS network 110 via a line card 128. The MPLS network 110 routes the MPLS packet 154 to the target receive-side edge router 111-114 over the preset route while replacing the forwarding label 158. The line card 128 of the receive-side edge router 111-114 receives an MPLS packet 154 from the MPLS network 110, and a VPN identification unit 129 identifies the VPN by referring to the VPN label 156 of the MPLS packet 154 and inputs the packet to the subrouter 123i (i=1, 2, . . .) that corresponds to the VPN." [0042]

The cited references do not teach or suggest "determining that the inner tag value identifies a service provisioned for the customer site." The Examiner argues that Chase has an inner tag value that identifies a service provisioned for the customer site. However, the Examiner does not indicate what the inner tag value is. If the inner tag in Chase is a VLAN priority or a VLAN tagid, neither the VLAN priority nor the VLAN tagid identify a service provisioned for the customer site as recited in independent claims. The cited section only states that "The MSP 12000.sub.2 tags each frame with the corresponding customer descriptor prior to statistically multiplexing the data for transmission on the fiber ring infrastructure 14 to the CO MSP 12000.sub.4 for receipt at the ATM switch 30. The ATM switch 30 then maps each frame to the appropriate PVC in accordance with the customer descriptor 22' in the frame in a manner similar to the mapping described with respect to FIG. 3. Thus, the ATM switch 30 could map the frame to one of Frame Relay recipients' 32.sub.1, 32.sub.2, or 32.sub.3, ATM recipients 32.sub.4 or 32.sub.5 or IMA (Inverse Multiplexing over ATM) recipient 32.sub.6." (Figure 5 description)

It is respectfully submitted that the material cited only describes forwarding after data is multiplexed for transmission on the fiber ring infrastructure. There is no inner tag value that

identifies a service provisioned for the customer site. It is respectfully submitted that the Examiner identifpy specifically what the inner tag value is in Chase.

The independent claims further recite that the inner tag value be replaced with "one or more identifiers for transmission onto the external network." The Examiner does not argue that an inner tag value is replaced in Chase but instead relies on Havala to teach this recitation. The Examiner states that Havala describes a "forwarding label 158" that is replaced for transmission onto the external network. It is acknowledged that a "forwarding label 158" can be replaced, however, this forwarding label can not be an inner label because it does not meet the other recitations of the independent claims. The forwarding label does not identify "a service provisioned for the customer site."

The Examiner appears to be arguing that Chase vaguely has some mechanism that is an inner tag that identifies a service and Havala has a forwarding label that is replaced. However, there is no teaching or suggestion anywhere to us an inner label to "identify a service provisioned for the customer site" and to replace the same inner label when "forwarding to an external network." The Examiner does not describe any motivation for creating this label that identifies a service and is replaced when forwarding to external networks other than cursorily mentioning that the forwarding label 158 of the VLAN packet in Havala can be combined into the outer tag and inner tag of Chase in order to identify a connection. The Applicants respectfully disagree, as identifying a connection is not a motivation for replacing an inner label that identifies a service when forwarding the packet to external networks. It is respectfully submitted that the Examiner further explain this motivation.

By contrast, the techniques and mechanisms of the present invention recognize by using outer tag and inner tags that are replaced, relatively transparent communication between nodes at different customer sites is provided while allowing extensive interconnectivity with nodes outside of the network.

CONCLUSION

In light of the above remarks, the rejections to the independent claims are believed overcome for at least the reasons noted above. Applicants believe that all pending claims are allowable in their present form. Please feel free to contact the undersigned at the number provided below if there are any questions, concerns, or remaining issues.

Respectfully submitted,
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APPENDIX: IN THE CLAIMS

1. (Original) A method for receiving frames at a gateway device, comprising:

receiving a frame at a metro ethernet gateway coupled to a metro ethernet network and an external network, the frame having an outer tag value identifying a customer site in a metro ethernet network, an inner tag value, an ethernet packet header, and an ethernet packet payload;

determining that the inner tag value identifies a service provisioned for the customer site; and

replacing the outer tag and the inner tag with one or more identifiers for transmission onto the external network.

2. (Original) The method of claim 1, wherein determining that the inner tag identifies a service provisioned for the customer comprises determining if the inner tag has a reserved value.

3. (Original) The method of claim 1, wherein the external network is an ATM network.

4. (Original) The method of claim 3, wherein the inner tag value identifies a service provisioned for the customer and a virtual circuit associated with an ATM network.

5. (Original) The method of claim 4, wherein the one or more identifiers are used to specify the virtual circuit.

6. (Original) The method of claim 1, wherein the external network is an IP network.

7. (Original) The method of claim 6, wherein the inner tag value identifies a provisioned IP network service.

8. (Original) The method of claim 7, wherein the outer tag and the inner tag are replaced with one or more identifiers for tunneling to an IP network.

9. (Original) The method of claim 1, wherein the metro ethernet network is a multiport layer 2 virtual private network.

10. (Original) The method of claim 1, wherein the inner tag and outer tag are QinQ tags.

11. (Original) A gateway device, comprising:

an external network interface coupled to an external network;

a metro ethernet network interface coupled to a metro ethernet network, the interface configured to receive a frame from the metro ethernet network, the frame having an outer tag value, an inner tag value, an ethernet packet header, and an ethernet packet payload, wherein the outer tag value identifies a customer site in the metro ethernet network; and

a processor operable to determine that the inner tag value identifies a service provisioned for the customer site and to replace the outer tag and the inner tag with one or more identifiers for transmission onto the external network.

12. (Original) The gateway device of claim 11, wherein determining that the inner tag identifies a service provisioned for the customer comprises determining if the inner tag has a reserved value.

13. (Original) The gateway device of claim 11, wherein the external network is an ATM network.

14. (Original) The gateway device of claim 13, wherein the inner tag value identifies a service provisioned for the customer and a virtual circuit associated with an ATM network.

15. (Original) The gateway device of claim 14, wherein the one or more identifiers are used to specify the virtual circuit.

16. (Original) The gateway device of claim 11, wherein the external network is an IP network.

17. (Original) The gateway device of claim 16, wherein the inner tag value identifies a provisioned IP network service.

18. (Original) The gateway device of claim 17, wherein the outer tag and the inner tag are replaced with one or more identifiers for tunneling to an IP network.

19. (Original) The gateway device of claim 11, wherein the metro ethernet network is a multiport layer 2 virtual private network.

20. (Original) The gateway device of claim 11, wherein the inner tag and outer tag are QinQ tags.

21. (Original) A network node, comprising:

means for receiving a frame at the network node coupled to a metro ethernet network and an external network, the frame having an outer tag value identifying a customer site in a metro ethernet network, an inner tag value, an ethernet packet header, and an ethernet packet payload;

means for determining that the inner tag value identifies a service provisioned for the customer site; and

means for replacing the outer tag and the inner tag with one or more identifiers for transmission onto the external network.

22. (Original) The network node of claim 21, wherein determining that the inner tag identifies a service provisioned for the customer comprises determining if the inner tag has a reserved value.

23. (Previously Presented) A computer readable medium comprising computer instruction code for receiving frames at a gateway device, the computer instruction code executed by the computer, the computer readable medium comprising:

computer instruction code for receiving a frame at a metro ethernet gateway coupled to a metro ethernet network and an external network, the frame having an outer tag value identifying a customer site in a metro ethernet network, an inner tag value, an ethernet packet header, and an ethernet packet payload;

computer instruction code for determining that the inner tag value identifies a service provisioned for the customer site; and

computer instruction code for replacing the outer tag and the inner tag with one or more identifiers for transmission onto the external network.

24. (Original) The computer readable medium of claim 23, wherein determining that the inner tag identifies a service provisioned for the customer comprises determining if the inner tag has a reserved value.